## AH-64D Block III (AB3) Development

**What is it?**
Apache Block III (AB3) will be the Army's attack helicopter of the future. It will add significant combat capability in a joint environment while addressing obsolescence issues to ensure the aircraft remains a viable combat multiplier beyond 2030. The key to the AB3 is the insertion of mature technologies into a proven weapon system platform.

**What has Army Aviation done?**
To date, AB3 has successfully completed all major program reviews, test events and milestones as it moves toward a November 2012 First Unit Equipped (FUE) date. The aircraft recently completed a Limited Users Test (LUT) at Yuma Proving Grounds utilizing U.S. Army Forces Command (FORSCOM) pilots from 4th Squadron, 3rd Armored Cavalry Regiment. The LUT tested the system's mission suitability and effectiveness, focusing on manned-unmanned teaming using Levels of Interoperability (LOI) 2 - 4 Unmanned Aircraft System (UAS) control. Given the successful completion of the LUT, the AB3 is maintaining its progression toward a Milestone C decision in April 2010.

**What continued efforts does Army Aviation have planned for the future?**
Improved Versatility: AB3 will operate in "high-hot" environments (6k/95 feet?) with a 3,400-pound payload hover out-of-ground effect (HOGE) and 250 nautical mile range / 2:40 min endurance. AB3 also incorporates a new drive train capable of improved flight performance. The changes include: General Electric (GE) 701D with 701D Electronic Digital Engine Control Unit (EDECU), improved nose gearbox, improved transmission and drive train, and Composite Main Rotor Blades (CMRB). Where the current Block I and II are limited, this will increase weapon loads and aircraft maneuverability at higher altitudes and temperatures. AB3 will join the rest of Army Aviation by being Army qualified for flight under Instrument Flight Rules (IFR). It will combine dual VORs , a non-corruptible GPS database, and an integrated IFR page to rapidly transition the pilot from Visual Flight Rules (VFR) to IFR conditions

Network Centric: The new communications suite will allow AB3 to be fully integrated into the joint environment with emerging technologies and provide a Common Operating Picture (COP) to ground maneuver forces. New processors will provide growth and insertion of new technologies.

Improved Sustainability: The AB3 will have an increased Mean Time Between Failure (MTBF) rate. It will incorporate a reduced overall number of Line Replaceable Units (LRU) and reconfigured wiring harnesses enabling easier troubleshooting. The aircraft will also be equipped with several improvements including an improved gun system, improved helmet tracker system (magnetic tracker) utilizing a HGU-56P helmet, and removing the Sight Sensor Unit / Sight Electronics Unit (SSU/SEUs) from the aircraft. AB3 will use a two-level maintenance system, reducing the logistics footprint. Embedded diagnostics will enable a threshold requirement of producing 96 percent accuracy in fault isolation/reporting thereby decreasing maintenance downtime. The embedded diagnostics will enable AB3 to transform to a Condition Based Maintenance (CBM) concept.

Improved/Increased Lethality and Situational Awareness: AB3 will be capable of Unmanned Aircraft System (UAS) Level of Interoperability (LOI) 2 (UAS video), LOI-3 (UAS Sensor Control), and LOI-4 (UAS movement). This capability will allow aircrews to use the UAS sensors from greater standoff and masked positions, shortening the kill chain and increasing survivability for aircrews.

Reduced Operating and Sustainment (O&S) Costs: The improved drive system, rotor blades and engines will have greater meant time between failures (MTBF) thereby reducing costs. The objective increase in reliability is 30 percent.

**Why is this important to the Army and Army Aviation?**
The AB3 will add significant combat capability in a joint environment while addressing obsolescence issues, ensuring the aircraft remains a viable combat multiplier beyond 2030. The key to the AB3 is the insertion of mature technologies into a proven weapon system platform. If not fielded, Apache Helicopters will lose the benefit of allowing growth due to emerging technologies and the capability to fully integrate and operate in a digital joint/combined arms environment.

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